

ABSTRACT OF THE DISCLOSURE

A step-down converter includes a self-conducting switching transistor (T1) and an inductance (L) located in a series arm, and a freewheeling diode (D_F) located in a shunt arm. The switching transistor (T1) is controlled by a control transistor (T2). The control transistor supplies a blocking voltage, which is generated by a Zener diode (D1) in the series arm, to the switching transistor (T1) once a maximum value for a current (I_L) in the series arm has been reached.